DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

| | | | |
|---|---|---|---|
| Lake: | EAGLE POND | Lake Area (ha): | 15.01 |
| Town: | WILMOT | Maximum depth (m): | 6.7 |
| County: | Merrimack | Mean depth (m): | 3.4 |
| River Basin: | Merrimack | Volume ($m^3$): | 517500 |
| Latitude: | 43°27'28" N | Relative depth: | 1.5 |
| Longitude: | 71°53'04" W | Shore configuration: | 1.16 |
| Elevation (ft): | 650 | Areal water load (m/yr): | 303.3 |
| Shore length (m): | 1600 | Flushing rate ($yr^{-1}$): | 87.90 |
| Watershed area (ha): | 8961.4 | P retention coeff.: | 0.03 |
| % watershed ponded: | 0.6 | Lake type: | natural |

| BIOLOGICAL: | | 7 January 1999 | 25 June 1998 |
|---|---|---|---|
| DOM. PHYTOPLANKTON (% TOTAL) | #1 | NO WINTER PLANKTON | MELOSIRA 85% |
| | #2 | ANALYZED | TABELLARIA 4% |
| | #3 | | |
| PHYTOPLANKTON ABUNDANCE (units/mL) | | | |
| CHLOROPHYLL-A (µg/L) | | | 2.73 |
| DOM. ZOOPLANKTON (% TOTAL) | #1 | | KELLICOTTIA 23% |
| | #2 | | CONOCHILUS 22% |
| | #3 | | POLYARTHRA 17% |
| ROTIFERS/LITER | | | 77 |
| MICROCRUSTACEA/LITER | | | 21 |
| ZOOPLANKTON ABUNDANCE (#/L) | | | 105 |
| VASCULAR PLANT ABUNDANCE | | | Common |
| SECCHI DISK TRANSPARENCY (m) | | | 2.3 |
| BOTTOM DISSOLVED OXYGEN (mg/L) | | 12.2 | 0.6 |
| BACTERIA (E. coli, #/100 ml) | #1 | | 17 |
| | #2 | | 6 |
| | #3 | | |

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None
Hypolimnion volume ($m^3$) : None
Anoxic volume ($m^3$) : 1850

CHEMICAL:

Lake: EAGLE POND
Town: WILMOT

| | 7 January 1999 | | 25 June 1998 | | |
|---|---|---|---|---|---|
| DEPTH (m) | 1.5 | 3.0 | 2.0 | | 5.0 |
| pH (units) | 6.3 | 6.2 | 6.5 | | 6.1 |
| A.N.C. (Alkalinity) | 5.5 | 5.5 | 7.6 | | 4.3 |
| NITRATE NITROGEN | 0.09 | 0.09 | < 0.05 | | < 0.05 |
| TOTAL KJELDAHL NITROGEN | 0.20 | 0.20 | 0.30 | | 0.40 |
| TOTAL PHOSPHORUS | 0.014 | 0.008 | 0.008 | | 0.012 |
| CONDUCTIVITY (μmhos/cm) | 49.0 | 46.8 | 40.3 | | 31.3 |
| APPARENT COLOR (cpu) | 21 | 26 | 55 | | 70 |
| MAGNESIUM | | | 0.48 | | |
| CALCIUM | | | 3.0 | | |
| SODIUM | | | 3.5 | | |
| POTASSIUM | | | < 0.40 | | |
| CHLORIDE | 4 | 5 | 4 | | 3 |
| SULFATE | 5 | 5 | 3 | | 4 |
| TN : TP | 21 | 36 | 38 | | 33 |
| CALCITE SATURATION INDEX | | | 3.4 | | |

All results in mg/L unless indicated otherwise

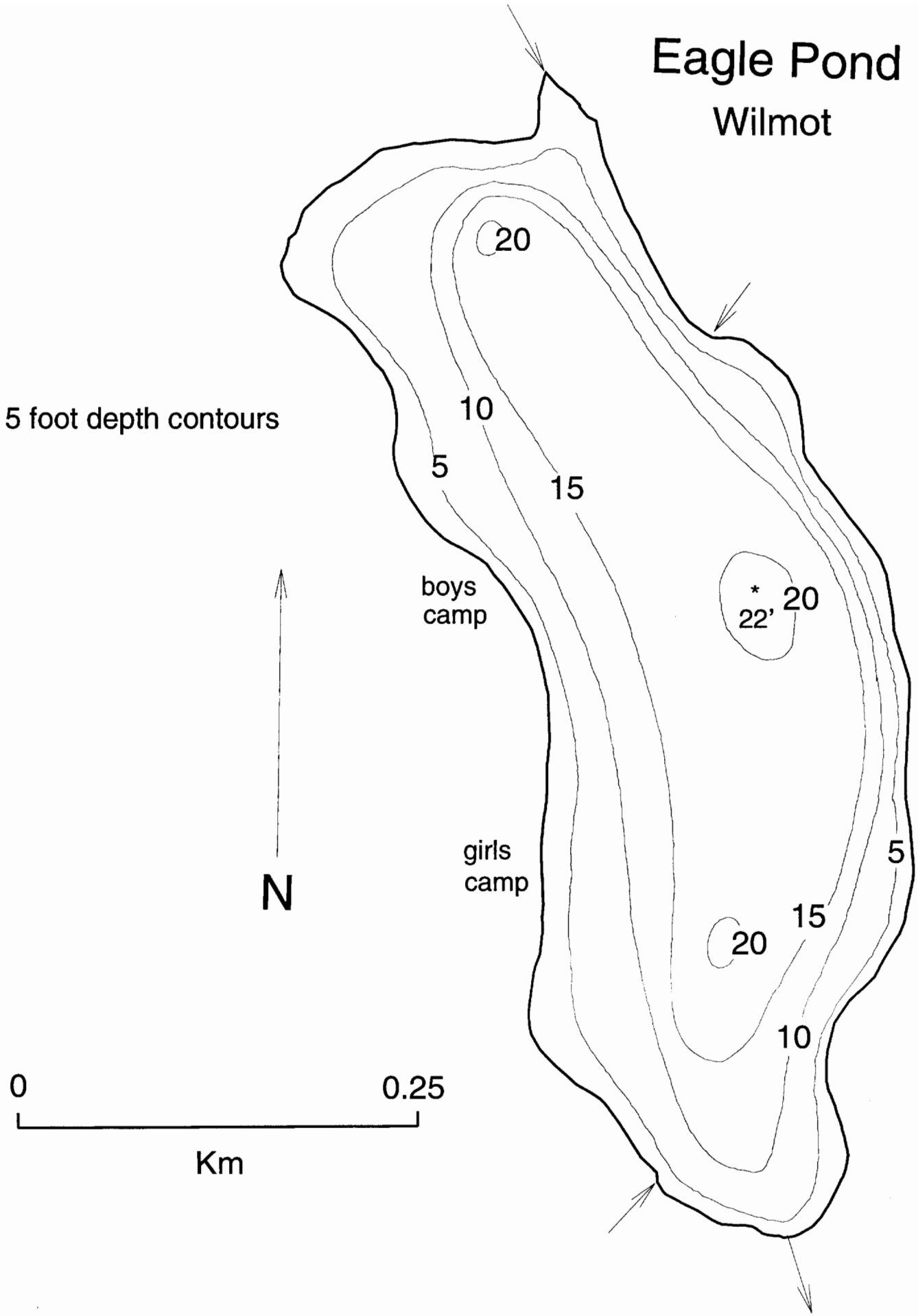
TROPHIC CLASSIFICATION: 1998

| D.O. | S.D. | PLANT | CHL | TOTAL | CLASS |
|---|---|---|---|---|---|
| ** | 3 | 3 | 0 | 6 | Meso. |

COMMENTS:

1. Eagle Pond was previously surveyed and classified in 1981. There was no change in trophic class and little change in trophic quality between the two dates – although phosphorus concentrations were much less in 1998 (0.040 mg/L in 1981 vs 0.008 mg/L in 1999).

2. Two juvenile camps were located on the pond; no other development.


Eagle Pond
Wilmot
5 foot depth contours
20
10
5
15
boys
camp
*
22'
20
girls
camp
5
15
20
10
N
0
0.25
Km

FIELD DATA SHEET

LAKE: EAGLE POND TOWN: WILMOT
DATE: 06/25/1998 WEATHER: OVERCAST

| | DEPTH (M) | TEMP (°C) | *DISSOLVED OXYGEN | OXYGEN SATURATION |
|---|---|---|---|---|
| | 0.1 | 21.6 | 8.0 | 91 % |
| | 1.0 | 19.6 | 8.1 | 88 % |
| | 2.0 | 18.7 | 7.8 | 83 % |
| | 3.0 | 17.1 | 7.8 | 81 % |
| | 4.0 | 14.9 | 6.8 | 67 % |
| | 5.0 | 13.3 | 4.0 | 39 % |
| | 6.0 | 11.9 | 0.6 | 6 % |
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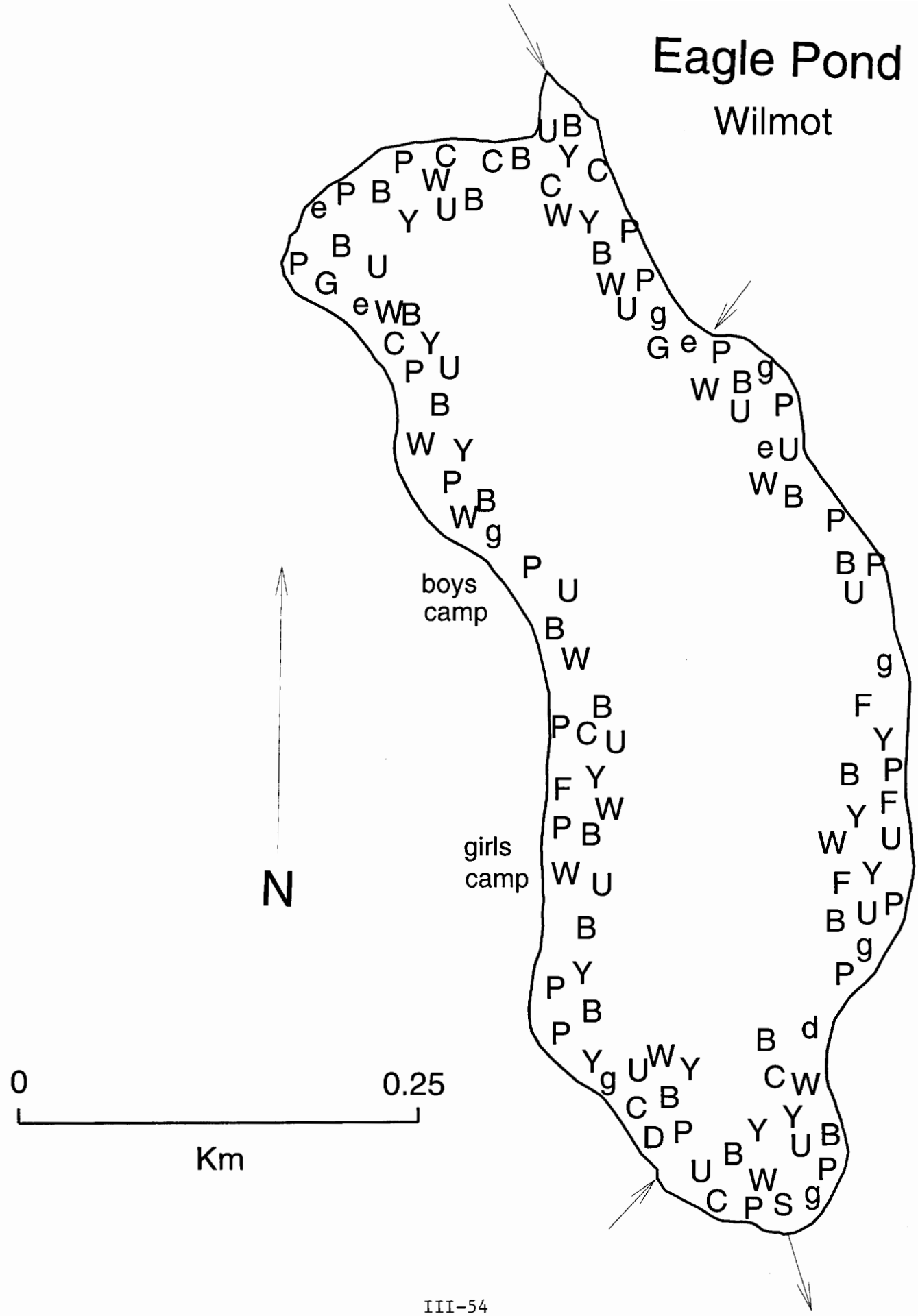
SECCHI DISK (m): 2.3 COMMENTS:
BOTTOM DEPTH (m): 6.4
TIME: 1130

*Dissolved oxygen values are in mg/L


Eagle Pond
Wilmot
boys
camp
girls
camp
N
0
0.25
Km

## AQUATIC PLANT SURVEY

LAKE: EAGLE POND TOWN: WILMOT DATE: 06/25/1998

| Key | PLANT NAME | | ABUNDANCE |
|---|---|---|---|
| | GENERIC | COMMON | |
| B | Brasenia schreberi | Water shield | Common |
| C | Cyperaceae | Non-flowering sedge | Scattered |
| Y | Nuphar | Yellow water lily | Scattered |
| W | Potamogeton natans | Floating-leaf pondweed | Scat/Common |
| U | Utricularia | Bladderwort | Scattered |
| N | Nymphaea | White water lily | Sparse |
| P | Pontederia cordata | Pickerelweed | Common |
| e | Eleocharis | Spike rush | Sparse |
| g | Myrica gale | Sweet gale | Sparse |
| F | Nymphoides cordatum | Floating heart | Scattered |
| D | Decodon verticillatus | Swamp loosestrife | Sparse |
| S | Sparganium | Bur reed | Sparse |
| d | Dulichium arundinaceum | Three-way sedge | Sparse |
| G | Gramineae | Grass family | Sparse |
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OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

1. Sweet gale was common along the shoreline out of the water (not depicted on the map) but was sparse in the water.

2. Sterile bottom growth was visible throughout the lake.